

**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>3001/18357 jm/b</b>	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/011442</b>	International filing date ( <i>day/month/year</i> ) <b>13.10.2004</b>	Priority date ( <i>day/month/year</i> ) <b>04.12.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>B01J8/06, C01C1/04, C01B3/38</b>			
Applicant <b>UHDE GMBH</b>			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <b>5</b> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>2</b> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/011442

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
 
  - international search (Rule 12.3 and 23.1(b))
  - publication of the international application (Rule 12.4)
  - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 

the international application as originally filed/furnished  
 the description:  
 pages 1-9 \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the claims:  
 nos. \_\_\_\_\_ as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* 1-6 \_\_\_\_\_ received by this Authority on 21.04.2005 with letter of 20.04.2005  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the drawings:  
 sheets 1/4-4/4 \_\_\_\_\_ as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3.  The amendments have resulted in the cancellation of:
 

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.	PCT/EP2004/011442
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Box No. V	<b>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>
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## 1. Statement

Novelty (N)	Claims	2, 3, 6	YES
	Claims	1, 4, 5	NO
Inventive step (IS)	Claims	2	YES
	Claims	1, 3-6	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

- 1) The new claims submitted with the letter of 20 April 2005 meet the requirements of PCT article 34(2) (b).
- 2) The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1, 4 and 5 is not novel (PCT Article 33(2)).

Attention is drawn to the fact that claim 1 (and thus all the dependent claims) appears to be restricted in that all the burners are arranged substantially in one plane. The final paragraph of page 6 of the description and the first paragraph of page 7 mention "rows of pipes" and the possibility of arranging the burners on a further plane. These embodiments do not appear at present to fall under the scope of the claims, and thus contradict claim 1 (PCT Article 6).

D1 discloses (see figure 1, column 3, line 55 - column 4, line 3 and column 5, lines 12-29) a synthesis furnace with a plurality of reaction pipes arranged vertically and parallel to one another and which are heated from without by a plurality of burners arranged on the roof of the furnace. The burner exit directions are oriented

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downwards and are inclined relative to the perpendicular leading away from the centre of the furnace. The inclination of the burner exit direction and the inclination of the individual burners can be adjusted (see column 5, lines 58-64).

The term "plurality", specifically "plurality of burners" and "plurality of...reaction pipes", is understood to mean "at least two".

In D1, the two (here too, "plurality" is interpreted to mean at least two) burners shown in figure 1 are arranged in the same plane and the burner exit directions of the individual burners are inclined differently.

Consequently, the subject matter of claims 1, 4 and 5 is not novel over D1.

The same argument also applies with respect to D2 (see figure 1). D2 discloses (see figure 1 and page 2, left-hand column, lines 34-56) a furnace of the aforementioned kind, wherein a plurality of burners is mounted in the roof of the furnace, with downwardly oriented burner exit directions which are inclined relative to the perpendicular leading away from the centre of the furnace.

Consequently, the subject matter of claims 1 and 4 is not novel over D2.

3) The adjustment of the inclinations of the burner exit directions is only one of several obvious options from

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which a person skilled in the art proceeding from D1 would choose according to the circumstance and using normal experimental effort so as to solve the problem of interest, without thereby being inventive. D1 discloses that the inclination of each of the individual burners described therein can be adjusted as required, such that a suitable temperature profile can be achieved according to the circumstances (see column 2, lines 5-9 and column 5, lines 12-29).

Consequently, the subject matter of claims 3 and 6 does not involve an inventive step (PCT Article 33(3)).

4) The subject matter of claim 2 appears at present to be patentable with respect to the prior art.